

United States District Court
EASTERN DISTRICT OF TEXAS
TYLER DIVISION

L.C. ELDRIDGE SALES CO., LTD., ET AL	§	
	§	
v.	§	No. 6:11cv599
	§	
AZEN MANUFACTURING	§	
PTE., LTD., ET AL	§	

MEMORANDUM OPINION AND ORDER

This claim construction order construes the disputed claim terms of U.S. Patent No. 7,707,828 (the '828 Patent). Plaintiff filed an opening brief (Doc. No. 108), Defendants filed a response (Doc. No. 112), and Plaintiff filed a reply (Doc. No. 118). On December 6, 2012, the Court held a *Markman* hearing and heard argument. For the following reasons, the Court adopts the constructions set forth herein. A summary of the final constructions is attached to this order.

I. BACKGROUND

This is a patent infringement suit. L.C. Eldridge Sales Co., Ltd. and Leseman Davis LLC (Plaintiffs) allege infringement of all 52 claims of the '828 Patent by Defendants Azen Manufacturing Pte, Ltd., Jurong Shipyard Pte, Ltd., Sembcorp Marine Ltd., Twin City Fan Companies, Ltd., Atwood Drilling, Inc., Atwood Oceanics Management, LP, Seadrill Americas, Inc., Sembcorp Holding, LLC, Sembcorp-Sabine Industries, Inc., and Sembcorp-Sabine Shipyard, Inc. (Defendants).¹

Plaintiffs and Defendants are involved in the offshore oil drilling industry. The '828 Patent issued on May 4, 2010, and has a priority date of December 19, 2005, based on a provisional patent application. The patent is entitled "Method and Apparatus for Manipulating and Diluting Internal Combustion Engine Exhaust Gases." The Abstract of the '828 Patent states:

¹ Defendant Friede & Goldman, LLC has been dismissed from the case (Doc. No. 148).

A system for manipulating engine exhaust gases away from inhabited areas comprises an air pressurization system coupled in fluid communication to a housing. The housing is adapted to reside adjacent a terminal portion of an exhaust pipe so that pressurized air injected into the housing entrains the exhaust gases and disperses them from the housing.

In general terms, the '828 Patent is intended to move harmful engine exhaust away from offshore oil drilling rigs. It discloses a system for increasing the speed of the exhaust gases so that they travel farther away from the exhaust pipe (and thus farther away from workers and equipment). The '828 Patent describes a housing installed around an exhaust pipe and an air pressurization system that injects air into the housing. The injected air mixes with the exhaust, and the combined flow travels away from the exhaust pipe at an increased speed.

The parties originally disputed the scope and meaning of 14 claim terms from the '828 Patent. However, prior to the claim construction hearing, the parties agreed to the appropriate construction for the term "couple." Accordingly, only 13 claim terms are still in dispute.

II. LEGAL STANDARDS

Claim construction is a matter of law. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995). The purpose of claim construction is to resolve the meanings and technical scope of claim terms. *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). When the parties dispute the scope of a claim term, "it is the court's duty to resolve it." *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008).

The claims of a patent define the scope of the invention. *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1324 (Fed. Cir. 2002). They provide the "metes and bounds" of the patentee's right to exclude. *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989). Accordingly, claim construction begins with and "remain[s] centered on the claim language itself." *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004).

Claim terms are normally given their “ordinary and customary meaning.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). “[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.*

The best guide for defining a disputed term is a patent’s intrinsic evidence. *Teleflex*, 299 F.3d at 1325. Intrinsic evidence includes the patent’s specification and the prosecution history. *Id.*

The claims are part of the specification. *Markman*, 52 F.3d at 979. The context in which a term is used in the claims instructs the term’s construction. *Phillips*, 415 F.3d at 1314; *see also Abtox, Inc. v. Exitron Corp.*, 122 F.3d 1019, 1023 (Fed. Cir. 1997) (“[T]he language of the claim frames and ultimately resolves all issues of claim interpretation.”). “Differences among claims can also be a useful guide in understanding the meaning of particular claim terms.” *Phillips*, 415 F.3d at 1314.

In addition to the claims, the specification’s written description is an important consideration during the claim construction process. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). The written description provides further context for claim terms and may reflect a patentee’s intent to limit the scope of the claims. *Watts v. XL Sys., Inc.*, 232 F.3d 877, 882 (Fed. Cir. 2000). But care must be taken to avoid unnecessarily reading limitations from the specification into the claims. *Teleflex*, 299 F.3d at 1326; *see also Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 957 (Fed. Cir. 1983) (“That claims are interpreted in light of the specification does not mean that everything expressed in the specification must be read into all the claims.”). “[P]articular embodiments appearing in the written description will not be used to limit claim language that has broader effect.” *Innova/Pure Water*, 381 F.3d at 1117; *see also*

Phillips, 415 F.3d at 1323 (“[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments.”).

The prosecution history is also part of the intrinsic evidence. *Phillips*, 415 F.3d at 1317. It “consists of the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent.” *Id.* Statements made during the prosecution of the patent may limit the scope of the claims. *Teleflex*, 299 F.3d at 1326.

Finally, the Court may rely on extrinsic evidence to aid with understanding the meaning of claim terms. *Markman*, 52 F.3d at 981. Extrinsic evidence includes “all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Id.* at 980. Extrinsic evidence is generally less useful, *Phillips*, 415 F.3d at 1317, and it should not be relied on when it contradicts the intrinsic evidence. *Markman*, 52 F.3d at 981.

Prior claim construction proceedings involving the same patents-in-suit are “entitled to reasoned deference under the broad principals of *stare decisis* and the goals articulated by the Supreme Court in *Markman*, even though *stare decisis* may not be applicable *per se*.” *Maurice Mitchell Innovations, LP v. Intel Corp.*, No. 2:04-CV-450, 2006 WL 1751779, at *4 (E.D. Tex. June 21, 2006).

III. DISCUSSION

Plaintiffs argue that no construction is required for any of the terms but offer alternative proposed constructions in the event the Court finds construction is necessary. Defendants have proposed detailed, specific constructions that rely heavily upon the preferred embodiment as described and illustrated in the specification. Defendants have not addressed Plaintiffs’ alternative proposed constructions.

Because there is a dispute regarding the scope of claim terms, “it is the court’s duty to resolve it.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co., Ltd.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008). The disputed terms, the parties’ proposed constructions and arguments in support, and the Court’s reasoning for its constructions are set forth below on a term-by-term basis.

A. “Housing”

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction is required. Alternatively: A case or enclosure capable of combining multiple fluid streams.	A case or enclosure adapted to surround a terminal portion of a much smaller engine exhaust pipe and forming a plenum between the enclosure and the exhaust pipe, so that pressurized air injected into the housing entrains exhaust gases and disperses them from the housing.

(Doc. No. 119 at 2). This term appears in Claims 1, 4, 5, 7, 9, 16, 20, 22, 29, 39, 41, 51, and 52.

Plaintiffs argue that Defendants’ proposed construction inappropriately restricts the term and does not improve the understandability of the term. Plaintiffs further argue that Defendants proposal improperly relies on disputed terms, such as “exhaust pipe” and “pressurized air,” for which Defendants have proposed constructions that contain the term “housing.” Plaintiffs contend that Defendants’ proposed construction is impermissibly circular and will “lead the jury in a hopeless circle” (Doc. No. 108 at 11).

Plaintiffs also argue that Defendants’ proposed construction impermissibly imports limitations into the claim. For example, Plaintiffs state that Claim 51 contains the term “housing” but does not contain the term “pressurized air.” According to Plaintiffs, if the Court adopted Defendants’ proposed construction, then Claim 51 would import the limiting term “pressurized air” even though the inventors did not intend for Claim 51 to be so limited.

Additionally, Plaintiffs argue that Defendants' proposed construction will confuse the jury by using the word "plenum"—a word that does not appear in the '828 Patent and which is uncommon. Plaintiffs also argue that Defendants' proposed construction is ambiguous because it will require jurors to determine what size pipe is "much smaller" than the housing.

Finally, Plaintiffs argue that Defendants' proposed construction violates the doctrine of claim differentiation. Plaintiffs contend that Claims 4 and 20 are dependent claims and recite the presence of an annular region between the housing and the exhaust pipe. According to Plaintiffs, Claims 1 and 16, from which Claims 4 and 20 depend, must have a broader scope and not be limited by the presence of an annular region between the housing and exhaust pipe.

Defendants respond that intrinsic evidence in the patent establishes that "housing" has a particular meaning to a person skilled in the art. First, Defendants argue that their proposal tracks the language of the Abstract which states "[t]he housing is adapted to reside adjacent a terminal portion of an exhaust pipe so that pressurized air injected into the housing entrains the exhaust gases and disperses them from the housing" (Doc. No. 112 at 11 (quoting the Abstract of the '828 Patent)). Second, Defendants claim that the specification supports the construction that the exhaust pipe must be much smaller than the housing (Doc. No. 112 at 11–12 (citing '828 Patent at 3:43–45, 3:19–26)).

Defendants argue that their proposed construction is not impermissibly circular because including other disputed terms in the construction is necessary to satisfy the patent's requirement that the housing form a plenum around the smaller exhaust pipe. Defendants argue that the specification supports importing disputed terms into the meaning of "housing."

Finally, Defendants argue that their proposed construction does not violate the doctrine of claim differentiation because the teachings of the '828 Patent outweigh the doctrine of claim

differentiation. Defendants contend that the invention only works because “a plenum is formed about a terminal portion of the exhaust pipe or system” (Doc. No. 112 at 15). According to Defendants, the presumption of claim differentiation is overcome by the teachings of the ’828 Patent.

Plaintiffs reply that the specification’s description of “housing” does not rise to the level of an express definition of the term. Plaintiffs emphasize their argument that Defendants’ proposal is circular, and argue that Defendants’ proposal would impermissibly import limitations into some independent claims (Doc. No. 118 at 5).

The Brief Summary of the Invention discloses that “[o]ne aspect of the invention includes an engine exhaust system comprising a housing adapted to surround a terminal portion of an engine exhaust pipe.” ’828 Patent at 2:7–9. The disclosure of “one aspect” of the invention is insufficient to find that the ’828 Patent contains an express definition for “housing.” Accordingly, the Court rejects Defendants’ attempt to limit the broad, generic term “housing” to the preferred embodiment. Thus the Court need not resolve whether Defendants’ proposed construction is impermissibly circular.

Additionally, Plaintiffs’ claim differentiation argument is well-taken. Under this doctrine, “the presence of a dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim.” *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004). Claim 4 recites an “annular region,” which corresponds to the “plenum” in Defendants’ proposed construction. Claim 1 does not contain this term. Claim 4 depends from Claim 1 and, consequently, suggests that “annular region” is not a limitation of Claim 1. *See id.* (“[W]here the limitation that is sought to be ‘read into’ an independent claim already appears in a dependent claim, the doctrine of claim differentiation is at its strongest.”).

On balance, Defendants have failed to demonstrate that the specification affirmatively limits the meaning of “housing” or otherwise requires that “housing” must always include the limitations proposed by Defendants.

Nevertheless, the Court finds that some construction is appropriate to explain the general context in which “housing” is used in the ’828 Patent. The parties agree that a “housing” is “a case or enclosure.” This language appears in both parties’ proposed constructions and is accurate in the context of the ’828 Patent.

Therefore, the term “**housing**” is hereby construed to mean “**a case or enclosure.**”

B. “Couple”

This term appears in Claims 1, 10, 16, 29, 30, 39, 51, and 52. The parties agree that this term, in its various forms (e.g., “couple” and “coupled”), means “**fasten, combine, connect, or join**” (Doc. No. 123). Accordingly, the Court adopts the parties’ agreed construction.

C. “Inject”

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction is required. Alternatively: Insert or force	To force pressurized ambient air into the annular region of the housing either by blowing from an upstream point or sucking from a downstream point.

(Doc. No. 119 at 2–3). This term appears in Claims 1, 3, 16, 21, 26–29, 39, 40, and 48–52.

Plaintiffs argue that this term is clear and is readily understood. Plaintiffs argue that Defendants’ proposed construction is redundant and needlessly verbose. Plaintiffs again argue that Defendants’ proposal is circular because it relies on disputed terms, such as “housing” and “air pressurization system,” for which Defendants’ have proposed constructions that include the term “inject.”

Plaintiffs also note that Claims 4 and 20, which depend from Claims 1 and 16, specifically recite the presence of an annular region between the housing and the exhaust pipe. Plaintiffs argue that Defendants' proposal would violate the doctrine of claim differentiation by importing the phrase "annular region" into Claims 1 and 16, which are presumed to have a broader scope than Claims 4 and 20.

Defendants claim that the '828 Patent itself supports their proposed construction. They argue that the term "inject" is used several times in the patent and each time it means "to force pressurized ambient air into the annular region of the housing" (Doc. No. 112 at 17).

Defendants argue that the doctrine of claim differentiation does not defeat their proposal because the invention only works if the housing creates a plenum or "annular region" (Doc. No. 112 at 18). Defendants assert their proposed construction is appropriate because claim differentiation does not require that the disputed terms be given their broadest possible meaning. Therefore, despite the apparent redundancy in claims that would result, Defendants argue that their proposed construction is required by the specification.

Plaintiffs reply that Defendants improperly propose limiting the disputed term to the preferred embodiment. Plaintiffs oppose Defendants' contention that Defendants' proposal must be adopted for the invention to be operative. Plaintiffs point out that a claim need not recite every component that is necessary for constructing a complete, operable embodiment (*see* Doc. No. 118 at 6 (quoting *Markem-Imaje Corp. v. Zipher Ltd.*, 657 F.3d 1293, 1300–01 (Fed. Cir. 2011) (per curiam) ("That a device will only operate if certain elements are included is not grounds to incorporate those elements into the construction of the claims."))).

The Court finds that the meaning of "inject" is plain on its face, particularly in the context of the claims in which it appears. The specification does not express or imply a narrower

interpretation. *See Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (“If the claim language is clear on its face, then our consideration of the rest of the intrinsic evidence is restricted to determining if a deviation from the clear language of the claims is specified.”). The Court is not required to construe a term when doing so would result in a construction that would not add clarity to the claims. *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (“Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy.”); *see also O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (“[D]istrict courts are not (and should not be) required to construe every limitation present in a patent’s asserted claims.”).

Additionally, the doctrine of claim differentiation, applied to Claims 4 and 20, provides further support for rejecting Defendants’ proposed construction. *Liebel-Flarsheim*, 358 F.3d at 910.

Therefore, the term “**inject**” need not be construed and is hereby afforded its plain meaning.

D. “Pressurized air”

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction is required. Alternatively: Air having a pressure greater than that of the outside atmosphere.	Ambient air that has been pressurized by the pressurization system to a pressure greater than the outside atmosphere.

(Doc. No. 119 at 3). This term appears in Claim 1.

Plaintiffs argue that this term is readily understood. Plaintiffs also argue that Defendants’ proposed construction is impermissibly circular because it uses the disputed term “pressurization system,” for which Defendants have in turn proposed a construction. Additionally, Plaintiffs

argue that there is no indication in the specification that the inventors intended for the term to have any meaning other than its plain and ordinary meaning.

In support of their proposed construction, Defendants argue that the claim language and specification require pressurized *ambient* air, not just pressurized air, and that it must be pressurized to greater than atmospheric pressure in order to achieve the necessary entrainment and dispersal. Defendants argue that their proposed construction describes the meaning of “pressurized air” for a person skilled in the art of the claimed invention.

In reply, Plaintiffs argue that Defendants have failed to produce any evidence that a person of ordinary skill in the art would define “pressurized air” with reference to the particular embodiments described in the ’828 Patent. Plaintiffs conclude that Defendants’ proposed construction is impermissible.

The parties agree that the construction should state that “pressurized air” is pressurized to a “pressure greater than the outside atmosphere.” The parties dispute whether the pressurized air must have been pressurized by the air pressurization system and whether the air that is pressurized must be ambient air.

Defendants properly read Claim 1 to require that the “pressurized air” is air that has been pressurized by the “air pressurization system.” Also, Claim 1 recites the use of an “ambient air pressurization system,” which a person of ordinary skill in the art would understand to be an air pressurization system that pressurizes ambient air.

Accordingly, the Court adopts Defendants’ proposed construction. The term **“pressurized air”** is hereby construed to mean **“ambient air that has been pressurized by the pressurization system to a pressure greater than the outside atmosphere.”**

E. “Annular region”

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction is required. Alternatively: Space between an outside surface of one pipe and an inside surface of another pipe.	A ring shaped area substantially the same as the discharge area of the pressurization device that is formed between an inside surface of the housing and an outside surface of the pipe into which air is injected at a velocity greater than the velocity of exhaust gases exiting the pipe.

(Doc. No. 119 at 3). This term appears in Claims 4, 6, 20, 29, 39, 51, and 52.

Plaintiffs assert that “[j]urors will readily understand [annular region] to mean a space between an outside surface of one pipe and an inside surface of another pipe” (Doc. No. 108 at 17). Plaintiffs again argue that Defendants’ proposed construction is impermissibly circular because it uses other disputed claim terms—such as “housing” and “inject”—to define “annular region.” Plaintiffs further argue that Defendants’ proposed construction violates the doctrine of claim differentiation because it would impermissibly insert limitations from dependent claims into Claims 4, 20, and 39 (Doc. No. 108 at 17–18).

Defendants argue that their proposed construction is supported by the specification, the Abstract, and the description of the invention itself (Doc. No. 112 at 19). Defendants contend that their proposal is not forbidden by the doctrine of claim differentiation because Figures 4 and 5 of the ’828 Patent show “that the invention works because the ‘annular plenum’ leads directly from the pressurization system and has, therefore, an area substantially equal to the discharge area thereof” (Doc. No. 112 at 20). Defendants argue that the ’828 Patent’s teachings must prevail over Plaintiffs’ claim differentiation argument.

Plaintiffs reply that Defendants’ proposed construction relies on permissive language describing the preferred embodiments that does not limit the scope of the claims.

First, Defendants have failed to justify their proposed limitation that the annular region must have an “area substantially the same as the discharge area of the pressurization device.” Dependent Claim 6 contains that limitation, which strongly suggests that Claim 4, from which Claim 6 depends, does not contain the limitation. *See Liebel-Flarsheim Co.*, 358 F.3d at 910 (“[W]here the limitation that is sought to be ‘read into’ an independent claim already appears in a dependent claim, the doctrine of claim differentiation is at its strongest.”). The same is true of Plaintiffs’ claim differentiation arguments involving independent Claims 20 and 39. Accordingly, the Court rejects Defendants’ proposed construction—which would limit the term “annular region” to the preferred embodiment. Consequently, the Court need not resolve Plaintiffs’ circularity arguments.

Second, Claim 4 suggests that the term “annular region” is not limited to being between a housing and a pipe but rather is broader and should encompass any ring-shaped space between two cylindrical structures. ’828 Patent at 3:42–43, 3:59–61, 5:13–14, 5:65–67, & 6:47–48. At the claim construction hearing, Plaintiffs argued that the “annular region” need not be formed by a cylindrical housing surrounding a concentrically placed cylindrical pipe thereby forming a uniform, ring-shaped “annular region.” Instead, Plaintiffs urged that the “annular region” could be formed, for example, by rectangular ducts, and Plaintiff also argued that the ducts need not be concentrically situated.

The Court rejects Plaintiffs’ argument that the “annular region” need not be formed by cylindrical structures. Based on the consistent disclosures in the ’828 Patent, a person of ordinary skill in the art would understand the term “annular” to mean ring-shaped. *See Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1144–45 (Fed. Cir. 2005) (construing term “board” to mean “wood cut from a log” in light of the patentee’s consistent usage of the term and noting that patentee “is not

entitled to a claim construction divorced from the context of the written description and prosecution history.”). Nothing in the ’828 Patent suggests any broader meaning. *See Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (“If the claim language is clear on its face, then our consideration of the rest of the intrinsic evidence is restricted to determining if a deviation from the clear language of the claims is specified.”). That is, nowhere does the ’828 Patent refer to or illustrate a square-shaped ring, for example, as being “annular.” However, Plaintiffs’ argument that the annular region need not be formed by concentrically situated ducts is well-taken. Such a construction would improperly limit the claims to a preferred embodiment and is accordingly rejected.

Accordingly, the term “**annular region**” is hereby construed to mean “**ring-shaped space between two cylindrical structures.**”

F. “Converging nozzle”

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction is required. Alternatively: A portion of a section of pipe that narrows from a wider diameter to a smaller diameter.	A short tube or duct that is part of the housing that narrows down from a wide diameter to a smaller diameter in the direction of the flow and functions to increase the velocity of flow.

(Doc. No. 119 at 3–4). This term appears in Claims 5, 16, 29, 39, 51, and 52.

Plaintiffs contend that this term is readily understandable. Plaintiffs again argue that Defendants’ proposal is needlessly long and is also circular because it attempts to define the disputed term “converging nozzle” with another disputed term: “housing.” Plaintiffs also argue that Defendants’ proposal is ambiguous because it contains the phrase “short tube or duct,” which will require jurors to determine what “short” means. Finally, Plaintiffs argue that Defendants’ proposal adds a functional requirement that is not found in the claim terms.

Plaintiffs contend that accelerating the fluid velocity through the converging nozzle is merely “preferred” and should not be imported into the claims.

Defendants argue that their proposed construction is consistent with the figures in the ’828 Patent. Defendants also point to the Summary of the Invention, which states that “the invention includes a method of manipulating engine exhaust gases, which comprises providing a housing having a converging nozzle at one end.” ’828 Patent at 2:16–18. Defendants further argue that the claims require that the converging nozzle accelerate fluid flow. Otherwise, Defendants assert, the combined exhaust gas will not travel away from the device and the “purpose of the invention will be frustrated” (Doc. No. 112 at 21).

Plaintiffs reply that “preferred embodiments cannot be imported to limit claim scope” and that any purported inoperability, even if true, “does not justify departing from a term’s ordinary meaning” (Doc. No. 118 at 7–8 (citing *Markem-Imaje Corp.*, 657 F.3d at 1300–01)).

The specification discloses that increasing the velocity of fluid flow is desirable, but Defendants have not established that a converging nozzle necessarily increases velocity. Moreover, adding pressurized air to the exhaust stream could increase the velocity of the exhaust gases even in the absence of a converging nozzle. In other words, Defendants have not established that the gas velocity must be increased by a converging nozzle rather than by some other component or aspect of the claimed invention. Accordingly, the Court rejects Defendants’ proposed limitation that the converging nozzle “functions to increase the velocity of flow” (Doc. No. 112 at 20). However, because the disputed term is “converging nozzle,” as opposed to diverging nozzle (or simply “nozzle”), the nozzle must narrow in the direction of fluid flow, as proposed by Defendants.

Accordingly, the term “**converging nozzle**” is hereby construed to mean “**a portion of a housing (or a pipe) that narrows, from a wider diameter to a small diameter, in the direction of fluid flow.**”

G. “Pressurization device”

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction is required. Alternatively: Device that increases the pressure of a fluid flowing through it.	A portion of the air pressurization system designed to increase the amount of atmospheric pressure of the ambient air received through the air inlet and is coupled to or integral with the housing transition.

(Doc. No. 119 at 4). This term appears in Claims 7, 8, 10, 32, and 33.

Plaintiffs argue that “[j]urors will readily understand [pressurization device] to mean a device that pressurizes a fluid stream” (Doc. No. 108 at 19). Plaintiffs further argue that Defendants’ proposed construction is impermissibly limiting and needlessly complex. Plaintiffs also argue that Defendants’ proposed construction is circular because it includes the terms “housing transition” and “air pressurization system,” for which Defendants have proposed constructions that include the term “pressurization device” (Doc. No. 108 at 19). Plaintiffs argue that the term needs no construction because it is clear and readily understood.

Defendants respond that the limitations in their proposed construction are supported by the claims and specification in the ’828 Patent. Defendants argue that the specification indicates that the “‘pressurization device’ is a portion of the air pressurization system that functions with an air inlet and the housing” (Doc. No. 112 at 22). Defendants further argue that the pressurization device uses the fan or blower to increase the atmospheric pressure of ambient air that is drawn in through the inlet. Defendants rely on Figure 3 in the ’828 Patent to argue that the “pressurization device” is coupled to or integral with the housing. (Doc. No. 112 at 22–23 (citing ’828 Patent, Figure 3)).

Plaintiffs reply that the permissive language from the specification cannot be imported into the claim to limit its scope (Doc. No. 118 at 8).

Claims 7 and 8 are representative and recite:

7. The system of claim 6, wherein the air pressurization system comprises an air inlet, a pressurization device, and a housing transition.

8. The system of claim 7, wherein the air pressurization device is selected from the group consisting of: an axial fan, an axial blower, a centrifugal fan, a centrifugal blower, a non-overloading fan, and a non-overloading blower.

'828 Patent at 9:12–17. Defendants' proposed limitations are either redundant of other claim language or are improper attempts to import limitations from the preferred embodiment. *See Harris Corp. v. IXYS Corp.*, 114 F.3d 1149, 1152 (Fed. Cir. 1997) (cautioning against constructions that “contribute nothing but meaningless verbiage to the definition of the claimed invention”). On balance, the Court rejects Defendants' attempt to limit the claim to the preferred embodiment, and the Court therefore need not address Plaintiffs' circularity argument.

Nevertheless, some construction is appropriate to clarify the meaning of “pressurization device,” which is not a commonly used term. The Court adopts Plaintiffs' proposed construction.

Accordingly, the term “**pressurization device**” is hereby construed to mean “**device that increases the pressure of a fluid flowing through it.**”

H. “Housing transition”

Plaintiffs' Proposed Construction	Defendants' Proposed Construction
No construction is required. Alternatively: Device that provides a passage from one position or piece of equipment, to another.	The portion of the separately motorized air pressurization system coupled to or integral with the air pressurization device, receiving pressurized ambient air pressurized by the pressurization device, and conveying the pressurized ambient air to the housing.

(Doc. No. 119 at 4–5). This term appears in Claims 7 and 32.²

Plaintiffs argue that Defendants’ proposed construction is unnecessarily complex. Plaintiffs assert that “[j]urors will readily understand the term to mean a transition, or passage, between two pieces of equipment” (Doc. No. 108 at 20). Plaintiffs also argue that Defendants’ proposal is circular because it includes the terms “pressurization device” and “air pressurization system,” for which Defendants have proposed constructions that include the term “housing transition” (Doc. No. 108 at 20–21). Plaintiffs further argue that Defendants’ proposal would impermissibly limit the term “air pressurization system” by adding a “separately motorized” requirement (Doc. No. 108 at 21).

In support of their proposal, Defendants argue that the housing transition in the ’828 Patent operates “as part of the air pressurization system, coupled with the pressurization device, to receive pressurized ambient air and convey it to the housing” (Doc. No. 112 at 24). Defendants claim that this construction is necessary to understand the term in the context of the ’828 Patent and is supported by the specification (Doc. No. 112 at 24 (citing ’828 Patent at 3:27–28; 4:28–38; 4:40–41; 5:36–40; Claims 7 and 32; and Figures 1, 4, and 6)).

Plaintiffs reply that Defendants have failed to justify the complexity of their proposed construction or the importation of the “separately motorized” limitation. Plaintiffs also contend that permissive language in the specification regarding preferred embodiments is not a valid basis for limiting the scope of the claim (Doc. No. 118 at 8).

Defendants have not established that the “housing transition” should be limited by references to the “separately motorized air pressurization system” or “pressurization device,” which are recited elsewhere in the claims. Therefore, the Court rejects Defendants’ proposal to

² At the claim construction hearing, the parties agreed that the term “transition” in Claim 32 should be construed the same as the term “housing transition” in Claim 7.

include those terms in the construction, and as a result the Court need not determine whether Defendants' proposal is impermissibly circular.

Accordingly, the term "**housing transition**" is hereby construed to mean "**passage between the housing and another piece of equipment.**"

I. "Turning and straightening vanes"

Plaintiffs' Proposed Construction	Defendants' Proposed Construction
No construction is required. Alternatively: Object placed in the path of a fluid stream that affects the flow of the fluid stream.	A thin, flat, or curved object that redirects the flow of a fluid by changing its course (turning vane) or making straight (straightening vane).

(Doc. No. 119 at 5). This term appears in Claims 9 and 34.

Plaintiffs contend that this term is clear and need not be construed. They also argue that Defendants' proposed construction introduces ambiguity because the jury will need to interpret the meaning of "thin," "flat," and "curved" even though those words do not appear in the '828 Patent (Doc. No. 108 at 21).

Defendants argue that intrinsic evidence reveals that this term has a special meaning in the context of the '828 Patent. Defendants point to a portion of the specification which states that "[t]urning and straightening vanes may be utilized in the housing" (Doc. No. 112 at 24 (quoting '828 Patent at 3:32–33)). Defendants also rely on a portion of the specification stating that turning and straightening vanes "support the outer housing and may function to reduce turbulence in the plenum and to convert the kinetic energy of the pressurized air within the annular plenum to static energy" (Doc. No. 112 at 25 (quoting '828 Patent at 5:19–23)). Defendants cite an extrinsic dictionary which defines vane as "a thin flat or curved object that is rotated about an axis by a flow of fluid or that rotates to cause a fluid to flow or that redirects a flow or fluid" (Doc. No. 112 at 25). Finally, Defendants argue that Figure 4 in the '828 Patent

demonstrates that the straightening vanes support the outer housing and straighten the flow of air through the plenum.

Defendants have presented no intrinsic evidence that “thinness” is a required feature of the vanes. Moreover, Defendants’ dictionary definition is disfavored and is insufficient to justify importing this limitation into the claims. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005) (en banc).³ The terms “turning” and “straightening” are readily understandable in the context of the claims. Thus, the Court will only clarify the meaning of “vanes.” Generally, the Court adopts Plaintiffs’ construction of “vanes.” However, the Court clarifies “affects” to encompass vanes for turning, vanes for straightening, and vanes for both turning and straightening.

The term “**turning and straightening vanes**” is hereby construed to mean “**objects, placed in the path of a fluid stream, that turn the flow of the fluid stream (as in the case of turning vanes) and/or straighten the flow of the fluid stream (as in the case of straightening vanes).**”

J. “Entrain”

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction is required. Alternatively: Carry with, or sweep along.	To collect and transport the exhaust gases exiting the housing by the flow of the ambient air moving at an increased velocity for increased direction, dispersion, and/or dilution of the exhaust gas.

(Doc. No. 119 at 5). This term appears in Claims 16, 29, and 39.

³ Defendants’ dictionary definition is from a website “last visited Nov. 1, 2012” (Doc. No. 112 at 25). But this does not definitively date the cited definition. Defendants have failed to show that the cited definition is contemporaneous with the filing of the application that led to the ’828 Patent. *See Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 816 (Fed. Cir. 2007) (noting with disfavor that “the district court chose to rely exclusively on a general dictionary that was not contemporaneous with the patent”).

Plaintiffs argue that “entrain” is clear on its face and that the jury will understand it to mean carrying or sweeping something along (Doc. No. 108 at 22). Plaintiffs also contend that Defendants’ proposed construction is impermissibly circular because it includes “housing,” for which Defendants have proposed a construction that includes the word “entrain” (Doc. No. 108 at 22).

Defendants’ respond by citing a portion of the specification which states that “[a]mbient air is pressurized into the plenum to entrain or *otherwise* increase the velocity of the exhaust gases exiting the housing for increased direction, dispersion and/or dilution” (Doc. No. 112 at 26 (quoting ’828 Patent at 3:21–24) (emphasis added)). Defendants argue that the patentee’s use of “otherwise” in the quoted passage operates to define “entrain” in accordance with the language that follows “otherwise.” Defendants urge that the invention can only work if “entrain” is construed in the manner Defendants propose.

Plaintiffs reply that Defendants’ proposal impermissibly relies on an inoperability argument that does not justify departure from the plain meaning of the word (Doc. No. 118 at 9 (citing *Markem-Imaje*, 657 F.3d at 1300–01)).

The Court rejects several portions of Defendants’ argument. First, Defendants’ proposed construction includes the desired objective of “increased direction, dispersion, and/or dilution of the exhaust gas.” But Defendants have not justified importing that desired objective into the preferred embodiment. *See Phillips*, 415 F.3d at 1327 (“[T]he fact that a patent asserts that an invention achieves several objectives does not require that each of the claims be construed as limited to structures that are capable of achieving all of the objectives.” (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 908 (Fed. Cir. 2004))). Thus, the Court rejects this portion of Defendants’ proposal.

Second, the Court rejects the portion of Defendants' proposal referring to "ambient air." "Ambient" is only recited in Claim 1, not Claims 16, 29, or 39.

Third, the Court rejects the portion of Defendants' proposal referring to "increased velocity" because it is addressed by separate claim language.

Fourth, the Court rejects the portion of Defendants' proposal referring to "exhaust gases exiting the housing" because it is unnecessary and redundant with other claim language.

Having rejected these portions of Defendants' proposal, the Court need not address Plaintiffs' argument that Defendants' proposed construction is impermissibly circular.

What remains is Defendants' proposal of "to collect and transport" and Plaintiffs' proposal of "carry with, or sweep along." Both of these proposals express the same concept, to wit, that one fluid is carried along by the action of another fluid. According to the '828 Patent:

The pressurized air injected into the plenum 16 by the pressurization device 44 creates an inductor effect within the plenum 16 at the discharge end 12a of the sleeve 12 and entrains or otherwise mixes with and dilutes the exhaust gases that are exiting the sleeve 12 and the combined fluid volume is accelerated through the nozzle 24 for dispersion.

'828 Patent at 4:54–60. Because "entrain" is not a commonly used word, some construction consistent with the remaining proposals is appropriate. *See TQP Dev., LLC v. Merrill Lynch & Co., Inc.*, No. 2:08-CV-471, 2012 WL 1940849, at *2 (E.D. Tex. May 29, 2012) (Bryson, J.) ("The Court believes that some construction of the disputed claim language will assist the jury to understand the claims."). Accordingly, the term "**entrain**" is hereby construed to mean "**to carry one fluid with another fluid.**"

K. “Air pressurization system”

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction is required. Alternatively: A system to increase the pressure of a volume or stream of air.	An orderly working totality designed to increase the amount of atmospheric pressure of the ambient air that is coupled to a housing and is comprised of an air inlet, a pressurization device, and a housing transition.

(Doc. No. 119 at 5–6). This term appears in Claims 1, 2, 7, 12, 16, 23, 29, 32, 39, 42, 51, and 52.

Plaintiffs argue that this term is clear and that jurors will understand it to mean “a system that increases the pressure of a fluid stream” (Doc. No. 108 at 22–23). Plaintiffs also argue that Defendants’ proposed construction is impermissibly circular because it includes the disputed terms “couple,” “pressurization device,” and “housing transition,” for which Defendants have proposed constructions that include the term “air pressurization system” (Doc. No. 108 at 23). Finally, Plaintiffs argue that Defendants’ proposed construction violates the doctrine of claim differentiation because it would insert a limitation recited in Claims 7 and 32—that “the air pressurization system comprises an air inlet, a pressurization device, and a housing transition”—into independent Claims 1 and 29 (Doc. No. 108 at 23).

Defendants argue that their proposed construction is based on intrinsic evidence. Defendants contend that the components of the air pressurization system are “an air inlet, a pressurization device, and a housing transition” (Doc. No. 112 at 26 (citing ’828 Patent at 3:27–28, Figure 4)). Defendants also contend that the air pressurization system is “coupled in fluid communication to a housing” and that “ambient air is injected into the housing by the air pressurization system” (Doc. No. 112 at 27 (citing ’828 Patent at 2:11–12)). Defendants also point to an extrinsic dictionary defining pressurization as “confi[n]g of] the contents . . . under a pressure greater than that of the outside atmosphere” (Doc. No. 112 at 27).

Finally, Defendants argue that their proposed construction does not violate claim differentiation because there is a conflict between the '828 Patent's teachings and the doctrine, and therefore the '828 Patent's teachings must prevail. Specifically, Defendants assert that the claimed invention cannot function "without an air pressurization system that takes in air through an inlet, pressurizes it, and sends it to the plenum created by the housing through a housing transition" (Doc. No. 112 at 27).

Plaintiffs reply that Defendants have not identified any limiting language in the specification and that Defendants' proposed use of the phrase "orderly working totality" will create confusion (Doc. No. 118 at 9).

First, Defendants' proposal of "an orderly working totality" is ambiguous, confusing, and unnecessary verbiage that is not supported by the written description. *See Harris Corp.*, 114 F.3d at 1152. The Court rejects this portion of Defendants' proposed construction.

Second, only Claim 1 recites "ambient." Including "ambient" in the construction would be redundant in Claim 1 and would improperly import a limitation from the preferred embodiment into the other claims at issue. The Court rejects this portion of Defendants' proposed construction.

Third, Defendants' proposal to include the phrase "is coupled to a housing and is comprised of an air inlet, a pressurization device, and a housing transition" is redundant of other claim language and improperly attempts to limit the claims to the preferred embodiment.

Having rejected these portions of Defendants' proposed construction, the Court need not resolve whether Defendants' proposed construction is impermissibly circular. Plaintiffs' proposal and what remains of Defendants' proposal are in basic agreement. Plaintiffs' proposal states "a

system to increase the pressure of a volume or stream of air.” Defendants’ remaining proposal states that the system is “designed to increase the amount of atmospheric pressure of the . . . air.”

Accordingly, the term “**air pressurization system**” is hereby construed to mean “**a system for increasing the pressure of a volume of air or a stream of air.**”

L. “Fluid communication”

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction is required. Alternatively: Configured to permit flow of fluid from one place to another.	The coupling of the air pressurization system to the housing joining the pressurized ambient air to the exhaust gas such that fluid can flow therebetween.

(Doc. No. 119 at 6). This term appears in Claims 1, 29, 39, 51, and 52.

Plaintiffs argue that this is an open-ended term requiring only that at least two things communicate with each other. Plaintiffs contend that the term does not require that the two things be specifically identified. Accordingly, Plaintiffs oppose Defendants’ proposal which would restrict this term to communication between an “air pressurization system” and a “housing.” Moreover, in contrast to Defendants’ proposed construction, Plaintiffs state that the air pressurization system is in fluid communication with the annular region, not the housing (Doc. No. 108 at 24).

Defendants respond that their proposed construction “requires the ‘coupling’ of the air pressurization system to the housing, and it is this coupling that ‘join[s] the pressurized ambient air to the exhaust gas such that fluid can flow therebetween’” (Doc. No. 112 at 28). Further, Defendants contend that their proposal is not circular because it is “supported fully by the claims and specification and reflects the patent’s teachings and the meaning of this term to one skilled in the art” (Doc. No. 112 at 28).

Plaintiffs reply that Defendants' proposed construction is ambiguous and circular and that "Defendants ask that this term, commonly used by engineers, be limited to specific embodiments" (Doc. No. 118 at 10).

"Fluid communication" is a general term that refers to a fluid path between recited structures. *See Lawler Mfg. Co. v. Bradley Corp.*, No. IP98-1660-C-M/S, 2000 WL 33281119, at *10-11 (S.D. Ind. Nov. 30, 2000) (construing "in fluid communication" to mean that "fluid makes the connection between the parts and areas specified, or that the parts so delineated are connected by fluid"). Further, the specification contains no language that would justify limiting the otherwise broad meaning of "fluid communication." *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) ("If the claim language is clear on its face, then our consideration of the rest of the intrinsic evidence is restricted to determining if a deviation from the clear language of the claims is specified."). Thus, the Court rejects Defendants' attempt to limit the term to the preferred embodiment. As a result, the Court need not resolve whether Defendants' proposed construction (which refers to other components that are disputed terms) is impermissibly circular.

Plaintiffs' proposed construction is consistent with the broad meaning of the generic term "fluid communication" as used in the '828 Patent. *See* '828 Patent at 4:26-39 (stating that "the transition 46 is adapted to the interface with the outer housing 14 so that fluid communication is established between the system 40 and the plenum 16"); '828 Patent 5:33-46. For clarity, the Court replaces Plaintiffs' proposed use of the word "place" with the word "space."

Accordingly, the term "**fluid communication**" is hereby construed to mean "**configured to permit flow of fluid from one space to another space.**"

M. “Exhaust pipe”

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction is required. Alternatively: Pipe for conducting exhaust gas.	The hollow cylinder used in an engine exhaust system for conducting engine exhaust gas away from a structure, the terminal end of which is surrounded by a housing.

(Doc. No. 119 at 6–7). This term appears in Claims 1, 16, and 52.

Plaintiffs argue that this term is clear on its face and is readily understood. Plaintiffs further argue that Defendants’ proposed construction is impermissibly circular because it uses the disputed term “housing,” for which Defendants have proposed a construction that uses the term “exhaust pipe.” Finally, Plaintiffs argue that Defendants’ proposal is unnecessarily limiting because it requires the terminal end of the exhaust pipe to be surrounded by a housing even though portions of the ’828 Patent describe the terminal end of the exhaust pipe as being coupled to, but not surrounded by, the housing (Doc. No. 108 at 26–27 (citing ’828 Patent, Claims 1 and 16)).

Defendants contend that their proposed construction is derived from the ’828 Patent. According to Defendants, “[f]or the claimed invention to work, the exhaust pipe must be surrounded by a housing (the very housing that forms the plenum where exhaust gases are entrained with ambient air and dispersed away from the device)” (Doc. No. 112 at 29). Defendants argue that Figures 1, 2, 4, 7, and 8 confirm their proposed construction.

Plaintiffs reply that “[t]his is a very common term” and that Defendants’ “inoperative embodiment” argument is insufficient to alter the plain meaning of a readily understood term (Doc. No. 118 at 10).

The meaning of “exhaust pipe” is plain on its face, particularly in the context of an “exhaust pipe associated with an engine” (as recited in Claim 1), “an engine exhaust pipe” (as

recited in Claim 16), and “an exhaust pipe of an engine” (as recited in Claim 52). The specification does not express or imply any narrower interpretation. *Interactive Gift Express*, 256 F.3d at 1331 (“If the claim language is clear on its face, then our consideration of the rest of the intrinsic evidence is restricted to determining if a deviation from the clear language of the claims is specified.”).

Under these circumstances, the Court need not construe this term and attempting to do so would likely obfuscate rather than clarify the scope of the claims. *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (“Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy.”); *see also O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (“[D]istrict courts are not (and should not be) required to construe every limitation present in a patent’s asserted claims.”). Accordingly, the Court rejects Defendants’ proposal to limit the term to the preferred embodiment by requiring that the terminal end be surrounded by a “housing.” In sum, the term “**exhaust pipe**” need not be construed and is hereby afforded its plain meaning.

N. “Adequately manipulate”

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
No construction is required. Alternatively: Sufficiently discharge away from a structure.	Indefinite, but otherwise, to sufficiently treat with mechanical means for a specific requirement (indefinite as to what specific requirement).

(Doc. No. 119 at 7). This term appears in Claims 17 and 43.

This term is the subject of Defendants’ motion for summary judgment of indefiniteness. Although the Court will enter a separate order addressing that motion, the parties’ arguments

regarding indefiniteness also affect claim construction, and the Court necessarily addresses those arguments in this section.

Plaintiffs argue that this term can be readily understood in the context of the claim language. Plaintiffs also contend that Defendants' indefiniteness challenge lacks merit because Defendants have failed to show by clear and convincing evidence that this term, as used in Claims 17 and 43, cannot be given a reasonable meaning (Doc. No. 108 at 27). Plaintiffs argue that the claims and the specification provide standards for measuring the adequacy of manipulation.

First, Plaintiffs argue that Claims 17 and 43 depend from Claim 16 which recites "[a] method of manipulating engine gases away from a structure" that includes "expelling the combined fluid . . . through [a] nozzle at a velocity greater than the exhaust gas alone and away from the structure" (Doc. No. 108 at 27 (citing '828 Patent at 9:37–49)). Plaintiffs state that expelling the combined gases away from the structure at a velocity greater than the exhaust gas is adequate manipulation (Doc. No. 108 at 28).

Second, Plaintiffs refer to the specification which states that the invention relates to "a method and apparatus for creating a high volume, high velocity air stream to direct an engine's exhaust away from a specific area and to dilute the exhaust gas" (Doc. No. 108 at 28 (citing '828 Patent at 1:25–29)). Plaintiffs also point to other language in the '828 Patent describing how the invention manipulates exhaust gas to reduce contamination on offshore rigs (Doc. No. 108 at 28).

In their motion for summary of judgment of indefiniteness, Defendants argue that "[n]either of the terms 'adequately' and 'manipulate' appear in the specification in any variant format" (Doc. No. 113 at 8). Defendants also argue that the term "adequate" is "vague,

ambiguous, and susceptible to subjective interpretation as to how much is ‘adequate’ or satisfactory and how much is ‘too much’ or ‘too little’” (Doc. No. 113 at 9). As to the term “manipulated,” Defendants state that “[t]he ’828 Patent describes many actions that exhaust gases are subject to, including increasing their velocity, expelling the combined fluid, and entraining the exhaust gases” (Doc. No. 113 at 9). Defendants argue that “Claims 17 and 43, however, are insufficient to understand the manner in which the exhaust gases are being ‘manipulated’” or what kind of manipulation is adequate (Doc. No. 113 at 9).

Alternatively, Defendants cite extrinsic dictionary definitions of “adequately” and “manipulate” in support of their proposal (Doc. No. 112 at 30 (citing “Merriam-Webster’s Dictionary, <http://www.merriam-webster.com/dictionary/adequately>” and “Merriam-Webster’s Dictionary, <http://www.merriam-webster.com/dictionary/manipulate>”)).

Plaintiffs respond to Defendants’ motion for summary judgment by arguing that forms of “adequately” and “manipulated” appear several times in the written description (Doc. No. 117 at 2, 14–15). Plaintiffs also argue that the claims themselves provide “guidance that ‘adequate manipulation’ means that the air pressurization is sufficient to discharge the exhaust gases away from a structure” (Doc. No. 117 at 13).

Plaintiffs reply to Defendants’ claim construction arguments by asserting that the term is clear from the context of the claim language and by suggesting that Defendants’ use of extrinsic evidence is inadequate to support Defendants’ proposed construction.

In support of their motion for summary judgment, Defendants argue that Plaintiffs’ proposed definition is indefinite because it fails to address the objective measure for defining the term “adequately manipulate.”

“[W]hen faced with a purely subjective phrase . . . , a court must determine whether the patent’s specification supplies some standard for measuring the scope of the phrase.” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1351 (Fed. Cir. 2005). The specification of the ’828 Patent discloses the problem that “low exhaust gas velocity may allow wind and other weather conditions to redirect exhaust gas back toward the exhaust discharge and/or inhabited areas.” ’828 Patent at 1:48–51. The specification also discloses that “[t]he invention relates generally to *manipulating* the flow of exhaust gas . . . away from a specific area.” ’828 Patent at 1:25-29 (emphasis added). This manipulation is disclosed as being achieved using air, such as ambient air. ’828 Patent at 3:15–16 (“manipulating engine exhaust gas with ambient air”). Further, the Abstract of the ’828 Patent refers to “[a] system for manipulating engine exhaust gases away from inhabited areas,” and the title of the ’828 Patent is “Method and Apparatus For Manipulating And Diluting Internal Combustion Engine Exhaust Gases.”

As to how much manipulation is “adequate,” the specification discloses that “[d]etermining how much pressurization from the air pressurization [system] may be needed to *adequately disperse the exhaust gases* may also be done, as well as determining the current speed of an engine, and/or determining one or more weather conditions.” ’828 Patent at 3:46–52 (emphasis added). The specification also explains that “[t]he inventions disclosed and taught herein are directed to . . . improving dispersal and dilution of the engine exhaust gas *to reduce or prevent contamination of inhabited areas.*” ’828 Patent at 1:65–2:3 (emphasis added). Further, “exhaust gas exit velocity may be sufficiently high to effect adequate direction or dispersal of the gases under certain weather conditions.” ’828 Patent at 7:13–15. Thus, the adequacy of the manipulation of exhaust gases will depend upon, for example, exhaust gas velocity, weather

conditions, and the location of the exhaust pipe with respect to other equipment and inhabited areas. Finally, the '828 Patent states:

It is preferred that the nozzle 24 be designed and constructed using conventional techniques to accelerate the fluid discharge velocity and to maintain a tight, fairly cylindrical, high velocity fluid flow away from the exit portion 18 at a velocity significantly greater than that of the prevailing wind velocity.

* * *

It is preferred that the system 10 be designed such that the engine exhaust can be propelled from the end of the nozzle 18 some 50 feet to 100 feet, or more, depending on prevailing wind speed, in a tight substantially cylindrical air pattern or column for maximum manipulation and dilution into the ambient air.

'828 Patent at 4:7–12, 5:2–7. Together with the other above-cited disclosures, these disclosures of “a velocity significantly greater than that of the prevailing wind velocity” and “propelled . . . some 50 feet to 100 feet” provide general, objective points of reference from which the finder of fact can apply the term “adequately manipulate.”

The case of *Hearing Components, Inc. v. Shure Inc.*, is analogous. 600 F.3d 1357 (Fed. Cir. 2010). In *Hearing Components*, the Federal Circuit reversed a finding of indefiniteness as to “readily installed and replaced by a user” where the specification explained that “[the guard] is simple to install, easy to remove, and convenient to replace, even for older persons. The guard is inexpensive and requires no tools for installation or removal.” *Id.* at 1368. The court found that this disclosure provided “some standard for measuring” the degree of “readily.” *Id.*

Because the specification provides “some standard for measuring” the degree of “adequately,” the Court rejects Defendants’ argument that the term “adequately manipulate” is indefinite. *Id.*

As to the proper construction, Defendants’ proposal of “to sufficiently treat with mechanic means for a specific requirement” is unclear as to the “mechanic means” and injects

confusion rather than clarity into the construction. Plaintiffs' proposal of "sufficiently discharge away from a structure" is supported by the above-quoted passages from the specification as well as the recitals of "structure" in the claims, such as Claim 39, from which Claim 43 depends. Also, both sides' proposed constructions include the word "sufficiently."

To provide proper context for Plaintiffs' proposal of "sufficiently," however, the construction must reflect the disclosure that the manipulation "reduce[s] or prevent[s] contamination." '828 Patent at 1:65–2:3. That limitation is appropriate because Plaintiffs have relied upon it when arguing that the term is not indefinite (Doc. No. 117 at 13). Such a limitation is also consistent with the context provided by the other above-quoted disclosures. Finally, although the specification refers to reducing or preventing contamination "of inhabited areas," the claims themselves refer to a "structure," in general, rather than to an inhabited area.


Accordingly, the term **"adequately manipulate"** is hereby construed to mean **"sufficiently discharge away from a structure so as to reduce or prevent contamination of the structure."**

IV. CONCLUSION

For the reasons stated, the Court adopts the constructions set forth above.

It is SO ORDERED.

SIGNED this 23rd day of May, 2013.


MICHAEL H. SCHNEIDER
UNITED STATES DISTRICT JUDGE

Attachment A

<u>Term</u>	<u>Parties' Agreed Final Construction</u>
1. "couple"	"fasten, combine, connect, or join"

<u>Term</u>	<u>Court's Final Construction</u>
1. "housing"	"a case or enclosure"
2. "inject"	Plain meaning
3. "pressurized air"	"ambient air that has been pressurized by the pressurization system to a pressure greater than the outside atmosphere"
4. "annular region"	"ring-shaped space between two cylindrical structures"
5. "converging nozzle"	"a portion of a housing (or a pipe) that narrows, from a wider diameter to a smaller diameter, in the direction of fluid flow"
6. "pressurization device"	"device that increases the pressure of a fluid flowing through it"
7. "housing transition"	"passage between the housing and another piece of equipment"
8. "turning and straightening vanes"	"objects, placed in the path of a fluid stream, that turn the flow of the fluid stream (as in the case of turning vanes) and/or straighten the flow of the fluid stream (as in the case of straightening vanes)"
9. "entrain"	"to carry one fluid with another fluid"
10. "air pressurization system"	"a system for increasing the pressure of a volume of air or a stream of air"
11. "fluid communication"	"configured to permit flow of fluid from one space to another space"
12. "exhaust pipe"	Plain meaning
13. "adequately manipulate"	"sufficiently discharge away from a structure so as to reduce or prevent contamination of the structure"